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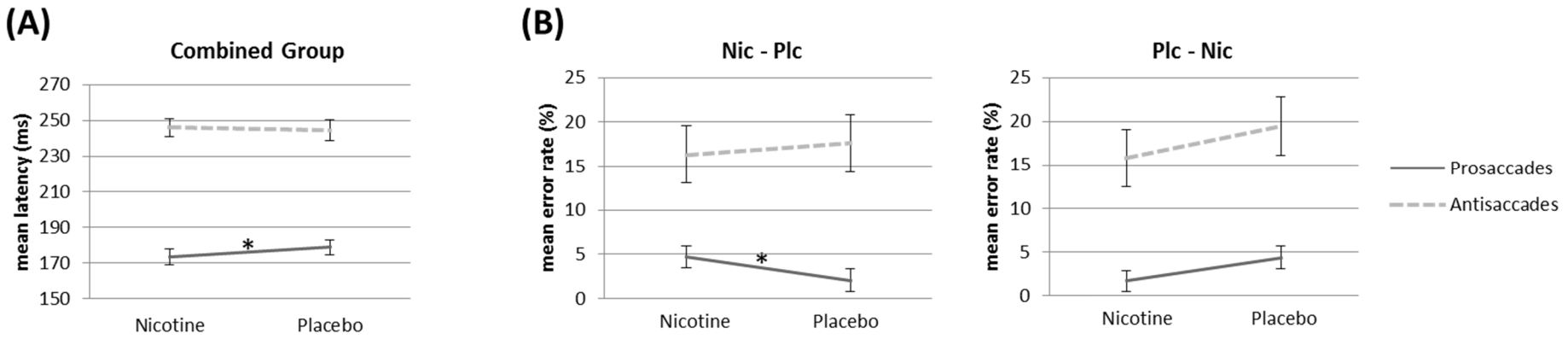
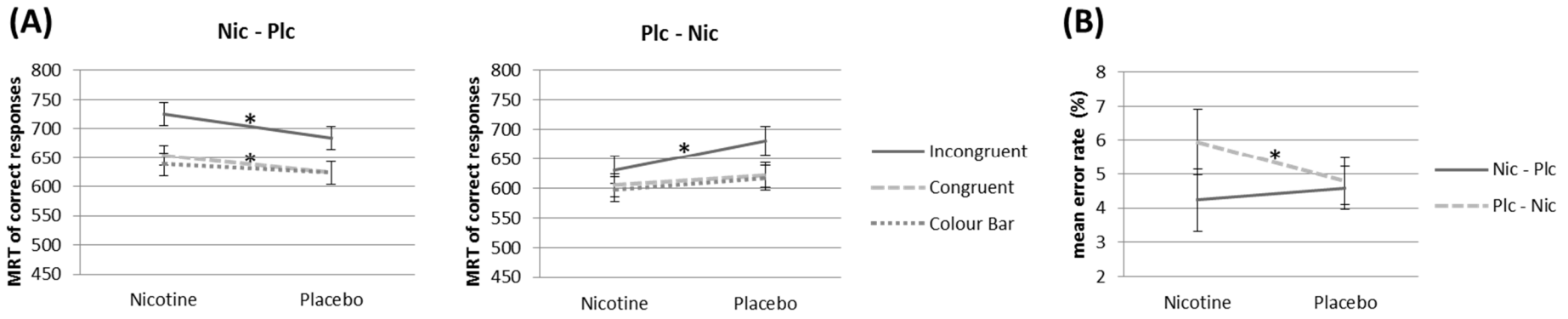
Figure 1: Effects on Saccade Task Latency and Error Rate



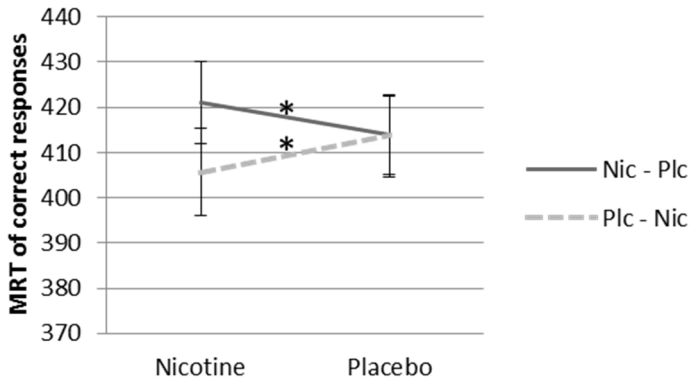
Note: Figure (A) shows the main effect of Task Condition on saccadic latency, indicating shorter latencies for prosaccades than for antisaccades, and the interaction between Drug and Task Condition, indicating shorter mean latencies with nicotine compared to placebo for prosaccades (*p<.05), but not for antisaccades (p>.05). Figure (B) shows the main effect of Task Condition on error rate and the interaction between Order, Drug and Task Condition. Significantly fewer prosaccade errors occurred in the second compared to the first study session in the Nic-Plc group (*p<.05). For further post-hoc tests, see main text. Error bars indicate the standard error.

Figure 2: Effects on Stroop Task Reaction Time and Error Rate



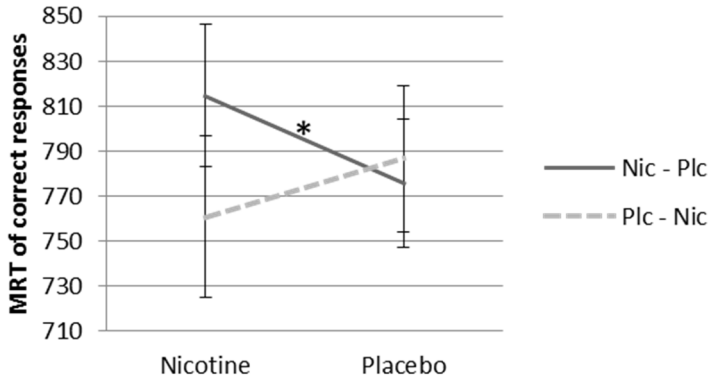
Note: Figure (A) shows the main effect of Task Condition, the interaction between Drug and Order, and the interaction between Drug, Task Condition and Order. In both groups, MRTs were shorter in the second study session compared to the first study session, but the size of this difference depended on Task Condition. Post-hoc t-tests indicated that in the Nic-Plc group, this difference was significant for incongruent (*p<.05) and congruent (*p<.05) but not for colour bar trials (p>.05). For the Plc-Nic group, this difference was significant for incongruent trials (*p<.05), but not for congruent and colour bar trials (both p>.05). For further post-hoc tests, see main text. Error bars indicate the standard error. MRT is mean reaction time (in ms). Figure (B) shows the interaction effect between Drug and Order, indicating higher error rates in the second than the first study session. T-tests showed significant differences between error rates in the two drug conditions for the Plc-Nic group (*p<.05) and, at trend level, for the Nic-Plc group (p=.05). Error bars indicate the standard error. See main text for more details.

Figure 3: Effects on Flanker Task Reaction Time



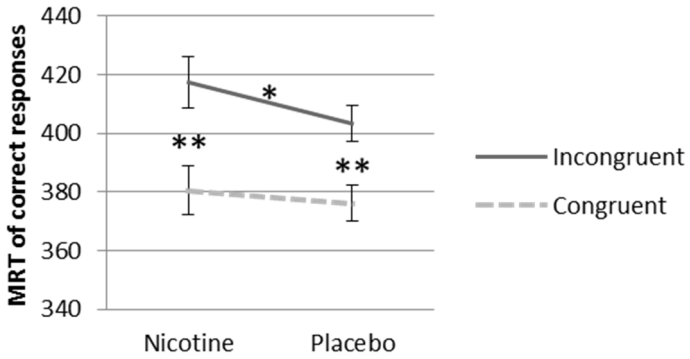
Note: The figure shows the interaction between Drug and Order, indicating that MRTs were shorter in the second than the first study session, irrespective of Task Condition. These differences were significant both for the Nic-Plc group (*p<.05) and for the Plc-Nic group (*p<.05). The two Order groups did not differ in the placebo condition or nicotine conditions (both p>.05). Error bars indicate the standard error. MRT is mean reaction time (in ms). See main text for more details.

Figure 4: Effects on Shape Matching Task Reaction Time



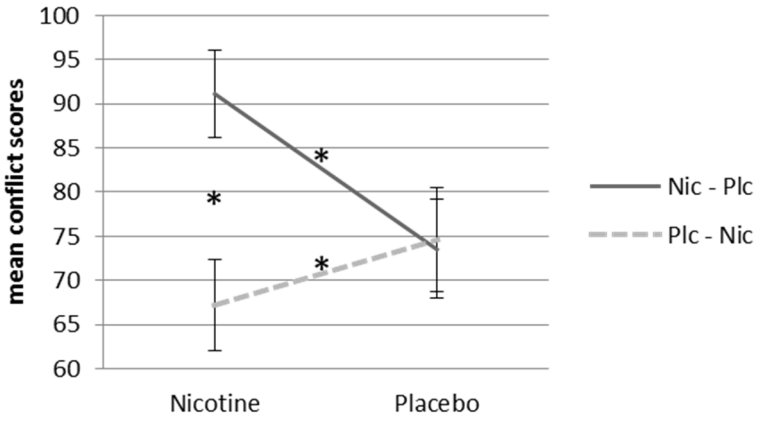
Note: The figure shows the interaction between Drug and Order, indicating that MRTs were shorter in the second than the first study session. This difference was significant for the Nic-Plc group (*p<.05), but not the Plc-Nic group (p>.05). The two order groups did not differ significantly in the placebo or nicotine conditions (both p>.05). Error bars indicate the standard error. MRT is mean reaction time (in ms). See main text for more details.

Figure 5: Effects on Simon Task Reaction Time



Note: The figure shows the interaction between Drug and Task Condition. MRTs were higher with nicotine than placebo in incongruent (*p<.05) but not congruent (p>.05) trials, and in incongruent than congruent trials during both nicotine (**p<.001) and placebo (**p<.001). Error bars indicate the standard error. MRT is mean reaction time (in ms). See main text for more detail.

Figure 6: Effects on Attention Network Test (ANT) Conflict Score



Note: The figure shows the interaction between Drug and Order, indicating that conflict scores were lower in the second than the first study session. Differences were significant in each group (*p<.05) and the two groups differed significantly under nicotine (*p<.05) but not placebo (p>.05). Error bars indicate the standard error. See main text for more detail.